



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,137	12/18/2001	James P. Viken	23,318-40	4142

7590 12/04/2002

John F. Klos, Esq.
Fulbright & Jaworski L.L.P.
Suite 4850
225 South Sixth Street
Minneapolis, MN 55402-4320

EXAMINER

VERDIER, CHRISTOPHER M

ART UNIT	PAPER NUMBER
----------	--------------

3745

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/026,137

Applicant(s)

VIKEN, JAMES P.

Examiner

Christopher Verdier

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on April 15, 2002 and October 30, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-5, 24-41 and 46-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34-39 is/are allowed.
- 6) ☒ Claim(s) 2-5, 24, 26, 31-33, 40, 41 and 46-50 is/are rejected.
- 7) ☒ Claim(s) 25 and 27-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☒ Interview Summary (PTO-413) Paper No(s). 9.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: _____

Art Unit: 3745

Receipt and entry of Applicant's Preliminary Amendments dated April 15, 2002 and October 30, 2002 is acknowledged. Claims 2-5, 24-41, and 46-50 are pending.

Information Disclosure Statement

Applicant has listed U.S. Patent 5,222,474 on form PTO-1449 and provided a copy, which has been considered by the examiner. However, the patentee name thereof is incorrect and has been changed by the examiner as indicated on form PTO-1449. Because U.S. Patent 5,222,474 does not relate to the subject matter of the instant application, Applicant may wish to check to determine if this is an incorrect patent number.

Terminal Disclaimer

The terminal disclaimer filed on November 25, 2002 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patents 6,330,934 B1; 5,472,064; RE 36,650; and 6,446,682 B1 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Objections

Claims 3, 40-41 and 46-50 are objected to because of the following informalities:
Appropriate correction is required.

In claim 3, line 8, "line" should be changed to -- circuit --.

In claim 40, line 6, "method " should be changed to -- procedure --.

In claim 46, line 6, "method " should be changed to -- procedure --.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 48 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment filed April 15, 2002 adds new claim 48 which recites that the first and second fluid meters are pressure gauges, and depends from claim 46 which recites that the fluid flow parameters in the first and second conduits are measured by the respective first and second fluid meters, with the fluid flow parameter in the first conduit being substantially equalized to the fluid flow parameter in the second conduit. Claim 48 specifies that the first and second fluid meters are pressure gauges, which results in combination with claim 46 that the pressures in the first and second conduits are substantially equalized. This is new matter because there is only basis in the parent applications for the flow rates in the first and second conduits being substantially equalized. There is no antecedent basis for the pressures in the first and second conduits being substantially equalized and therefore claim 48 adds new matter.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 46-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 46, line 19, "a fluid flow parameter" is a double recitation of the fluid flow parameter in claim 46, lines 12-13. In claim 46, line 20, "a fluid flow parameter" is a double recitation of the fluid flow parameter in claim 46, lines 14-15.

Effective Filing Date of the Instant Application

The effective filing date for all pending claims of the instant application is March 9, 1994, based on U.S. Patent application 08/209,061 which matured into U.S. Patent 5,472,064. Claim 2 recites a bypass fluid line intercoupled between the first and second fluid lines having a selectively controllable bypass fluid line valve for controlling fluid communication between the first and second fluid lines to allow first and second operational conditions including the first operational condition that allows reintroduction into the cooling circuit and the second operational condition that allows used fluid to be received into the first fluid line and fresh fluid to be received into the second fluid line and introduced into the cooling circuit. Claim 3 recites a bypass conduit that provides selective fluid communication between the first and second conduits, with energizing of the transmission to flow used fluid through the first conduit, the bypass conduit, and the second conduit, and selective blocking of the fluid communication between the first and second conduits via the bypass conduit. Claim 4 recites similar features as set forth above with regard to claim 2. Claim 24 recites similar features as set forth above with regard to claim 2. Claim 34 recites similar features as set forth above with regard to claim 2, and the additional feature of measuring the fluid parameter in the bypass conduit during the bypass

Art Unit: 3745

condition and adjusting an exchange parameter of the first conduit and the second conduit during exchange to approximately match the fluid parameter measured during the bypass condition.

Claim 40 recites the feature of flowing used fluid into the first conduit and through the second conduit so that used fluid from the cooling circuit is recirculated back into the fluid cooling

circuit. Claim 46 recites the feature of measuring a fluid flow parameter in the first conduit through reference to the first fluid meter and measuring a fluid flow parameter in the second conduit through reference to the second fluid meter. All of these features are found in U.S.

Patent application 08/209,061 which matured into U.S. Patent 5,472,064. These features are not found in earlier U.S. Patent application 07/781,322 which matured into U.S. Patent 5,318,080,

because earlier U.S. Patent application 07/781,322 which matured into U.S. Patent 5,318,080 does not contain a bypass line and does not have a recirculation mode. Although figure 5 of U.S.

Patent application 07/781,322 which matured into U.S. Patent 5,318,080 shows a T 55 that is coupled to the outlet port on the radiator 20 and the inlet port 16 on the transmission, T 55 is not selectively coupled to the first and second fluid lines 52 and 47, because these lines are

disconnected from the fluid circuit and the T 55 is connected to determine the direction of flow in the fluid circuit, then the T 55 is disconnected and the first and second fluid lines 52 and 47

are reconnected to the fluid circuit. Additionally, the U.S. Patent application 07/781,322 which matured into U.S. Patent 5,318,080 does not disclose a valve located in bypass line. With regard

to claim 46 of the instant application, note that U.S. Patent application 07/781,322 which

matured into U.S. Patent 5,318,080 does not disclose measuring first and second fluid flow

parameters in the respective first and second conduits and adjusting a valve in fluid

Art Unit: 3745

communication with either the first and second fluid conduits so that the fluid flow parameters in the first and second conduits are substantially equalized.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 2-72,299. Note the fluid exchange system 1 for performing a fluid exchange procedure on automatic transmission A of a vehicle comprising first conduit 2 communicating fluid from the transmission, second conduit 3 communicating fluid to the transmission, bypass conduit 11 (having pressure responsive valve 12 which provides selective communication at high pressure conditions, see page 16, paragraph 4 of Applicant's English translation thereof) selectively communicating fluid between the first conduit and the second conduit where the first conduit and the second conduit are coupled into an accessed fluid circuit C-D of the vehicle, with a bypass mode being established by selectively coupling the bypass conduit between the first and second conduits so that used fluid from the fluid circuit is received into the first conduit, passed through the bypass conduit, and into the second fluid conduit so that used fluid is reintroduced into the

Art Unit: 3745

accessed fluid circuit, with an exchange mode of operation being established by selectively uncoupling the bypass conduit between the first and second conduits so that used fluid from the fluid circuit is received into the first conduit and fresh fluid is received into the second conduit and introduced into the accessed fluid circuit. Note fresh fluid receptacle 10 and used fluid receptacle 7, at least one of which is removable from the exchange system for refilling or emptying purposes. The Japanese Patent also discloses the method of exchanging used fluid with fresh fluid in the automatic transmission, with the used fluid initially being contained within the transmission, and with a substantial portion of the used fluid being subsequently discharged into receptacle 7, with the fresh fluid initially being contained in source container 10, comprising identifying transmission cooling circuit C-D, uncoupling a portion of the transmission cooling circuit to provide access to first port D1 and second port D4, with first port D1 directing used transmission fluid outwardly from the automatic transmission under pressure from the automatic transmission, providing the fluid exchange system 1 with first conduit 2, second conduit 3, and bypass conduit 11 selectively communicating fluid between the first conduit and the second conduit, coupling first conduit 2 to the first port D1, coupling second conduit 3 to the second port D4 via radiator C and line D3, energizing the transmission to flow used fluid through first conduit 2, bypass line 11, and second conduit 3, and selectively blocking fluid communication between the first conduit 2 and the second conduit 3 via bypass conduit 11 and valve 12 thus flowing used fluid into the first conduit 2 and flowing fresh fluid into the second conduit 3 during an exchange procedure.

Claims 3-5 are also rejected under 35 U.S.C. 102(e) as being anticipated by Chen 5,337,708. Note in figures 1-2 and 4 the fluid exchange system 10 for performing a fluid exchange procedure on automatic transmission 14 of a vehicle comprising first conduit 26/24 communicating fluid from the transmission, second conduit 18 communicating fluid to the transmission, bypass conduit 82 selectively communicating fluid between the first conduit and the second conduit where the first conduit and the second conduit are coupled into an accessed fluid circuit of the vehicle, with a bypass mode being established by selectively coupling the bypass conduit between the first and second conduits so that used fluid from the fluid circuit is received into the first conduit, passed through the bypass conduit 82 (see figure 2), and into the second fluid conduit so that used fluid is reintroduced into the accessed fluid circuit, with an exchange mode of operation (see figure 4) being established by selectively uncoupling the bypass conduit 82 between the first and second conduits so that used fluid from the fluid circuit is received into the first conduit 26/24 and fresh fluid is received into the second conduit 18 and introduced into the accessed fluid circuit. Note fresh fluid receptacle 68 and used fluid receptacle 72, at least one of which is removable from the exchange system for refilling or emptying purposes. Chen also discloses the method of exchanging used fluid with fresh fluid in the automatic transmission, with the used fluid initially being contained within the transmission, and with a substantial portion of the used fluid being subsequently discharged into receptacle 72, with the fresh fluid initially being contained in source container 68, comprising identifying the transmission cooling circuit, uncoupling a portion of the transmission cooling circuit to provide access to first port 28 and second port 34, with first port 28 directing used transmission fluid outwardly from the automatic transmission under pressure from the automatic transmission,

Art Unit: 3745

providing the fluid exchange system 10 with first conduit 26/24, second conduit 18, and bypass conduit 82 selectively communicating fluid between the first conduit and the second conduit, coupling first conduit 26/24 to the first port 28, coupling second conduit 18 to the second port 34, energizing the transmission to flow used fluid through first conduit 26/24, bypass line 82, and second conduit 18, and selectively blocking fluid communication between the first conduit 26/24 and the second conduit 18 via bypass conduit 82 and via valves 80A and 80B thus flowing used fluid into the first conduit 26/24 and flowing fresh fluid into the second conduit 18 during an exchange procedure.

Claims 46-47 and 49 are rejected under 35 U.S.C. 102(e) as being anticipated by Parker 5,370,160. Note the exchange procedure in figure 3 for changing used fluid 33 with fresh fluid 35 in a vehicle 17 having an unnumbered automatic transmission connected to fluid cooling circuit 19/16/21, with the used fluid circulated through the circuit under power of an unnumbered internal pump within the transmission, with the used fluid being initially contained within the transmission and the fluid cooling circuit, with at least a substantial portion of the used fluid being subsequently discharged into receptacle 33, with the fresh fluid initially being contained in source container 35, with the method comprising providing a fluid exchange system having plural conduits, including first conduit 15 for communicating fresh fluid to the transmission, and second conduit 13 for communicating used fluid from the transmission, accessing the fluid cooling circuit by connecting the first and second conduits thereto, providing first fluid meter 41 in flow communication with the first conduit to measure the fluid flow parameter flow rate, providing second fluid flow meter 31 in fluid communication with the second conduit to measure

Art Unit: 3745

the fluid flow parameter flow rate, pumping fresh fluid from the source container through the first conduit and into the fluid cooling circuit while receiving used fluid from the fluid cooling circuit through the second conduit, measuring the flow rate in the first conduit via the first fluid meter 41, measuring the flow rate in the second conduit via the second flow meter 31, providing valve 39 in fluid communication with the first conduit 15 to control a flow of fluid therethrough, and adjusting the valve so that the flow rate in the first conduit is substantially equalized with the flow rate in the second conduit. Note the valve 39 in fluid communication with first conduit 15 and the valve 29 in fluid communication with the second conduit 13. The first and second fluid meters are flow rate meters.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 2-72,299 in view of Becnel 3,513,941. The Japanese Patent 2-72,299 discloses a fluid exchange system and a method of exchanging used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit substantially as claimed as set forth above, but does not disclose that the transmission has an internal fluid pump to conduct circulated fluid in the fluid cooling circuit.

Becnel (figure 1 and column 1, lines 64-72 and column 2, lines 1-16) shows a fluid change apparatus for an automatic transmission 10, which is provided with at least two internal pumping units, each of which discharges into a line 12 leading to a cooler 14 mounted in or adjacent radiator 16, with a return line 18 connecting the cooler back to the transmission pan or sump, for the purpose of circulating automatic transmission fluid in the transmission.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the fluid exchange system and method of exchanging used fluid with a fresh fluid of the Japanese Patent 2-72,299 with an internal fluid pump located in the automatic transmission, as taught by Becnel, for the purpose of circulating automatic transmission fluid in the transmission.

Claims 2, 24, 26, and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen 5,337,708 in view of Becnel 3,513,941. Chen discloses a fluid exchange system and a method of exchanging used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit substantially as claimed as set forth above, with reference to figures 1-4, including measuring the fluid parameter of pressure and flow rates in first conduit 26/24 and second conduit 18 (see column 8, lines 60-68 and column 9, lines 10-18) during the exchange condition via pressure gauges such as 90 and fluid flow meters such as 86. However, Chen does not disclose that the transmission has an internal fluid pump to conduct circulated fluid in the fluid cooling circuit.

Becnel (figure 1 and column 1, lines 64-72 and column 2, lines 1-16) shows a fluid change apparatus for an automatic transmission 10, which is provided with at least two internal pumping units, each of which discharges into a line 12 leading to a cooler 14 mounted in or adjacent radiator 16, with a return line 18 connecting the cooler back to the transmission pan or sump, for the purpose of circulating automatic transmission fluid in the transmission.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the fluid exchange system and method of exchanging used fluid with a fresh fluid of Chen with an internal fluid pump located in the automatic transmission, as taught by Becnel, for the purpose of circulating automatic transmission fluid in the transmission.

Claims 26 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 2-72,299 and Becnel 3,513,941 as applied to claim 24 above, and further in view of Parker 5,370,160. The modified method of exchanging used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit of Japanese Patent 2-72,299 shows all of the claimed subject matter except for measuring a fluid parameter in the first and second conduits during the exchange condition, via a pressure indicator, or via a fluid flow meter.

Art Unit: 3745

Parker (figure 3) shows a method of exchanging used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit whereby pressure is measured in a first supply conduit 15 via pressure gauge 43 and flow rate is measured via flow meter 41 in the first conduit, and pressure is measured in a second removal conduit 13 via pressure gauge 25 and flow rate is measured via flow meter 31 in the second conduit, for the purpose of indicating the pressure and flow rate of fresh fluid flowing into the transmission and used fluid flowing out of the transmission during an exchange procedure.

It would have been further obvious at the time the invention was made to a person having ordinary skill in the art to provide the modified fluid exchange method of Japanese Patent 2-72,299 with pressure gauges and flow rate meters in the first and second conduits, as taught by Parker, for the purpose of indicating the pressure and flow rate of fresh fluid flowing into the transmission and used fluid flowing out of the transmission during an exchange procedure.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 2-72,299 and Becnel 3,513,941 and Parker 5,370,160 as applied to claim 32 above. The modified method of exchanging used fluid with a fresh fluid of Japanese Patent 2-72,299 shows all of the claimed subject matter except for the fluid flow meters being electronic. Rather, the flow meters are sight gauges which are visual.

Official Notice is taken that it is known to those of ordinary skill in the art that visual sight gauges (which are a mechanical type gauge) are replaceable via modern electronically

Art Unit: 3745

indicating fluid flow meter gauges, for the purpose of obtaining a more accurate measure of the flow rate via an electronic readout.

It would have been further obvious at the time the invention as made to a person having ordinary skill in the art to replace the mechanical sight gauges of the modified fluid exchange apparatus and method of Japanese Patent 2-72,299 with modern electronically indicating fluid flow meter gauges, for the purpose of obtaining a more accurate measure of the flow rate via an electronic readout.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen 5,337,708 and Becnel 3,513,941 as applied to claim 32 above. The modified method of exchanging used fluid with a fresh fluid of Chen shows all of the claimed subject matter including measuring the fluid parameter of flow rates in first conduit 26/24 and second conduit 18 (see column 8, lines 60-68 and column 9, lines 10-18) during the exchange condition via fluid flow meters such as 86. However, Chen as modified does not show that the fluid flow meters are electronic.

Official Notice is taken that it is known to those of ordinary skill in the art that modern electronically indicating fluid flow meter gauges are used in instances where it is desired to obtain a more accurate measure of the flow rate via an electronic readout.

It would have been further obvious at the time the invention as made to a person having ordinary skill in the art to replace the flow meters of the modified fluid exchange apparatus and

Art Unit: 3745

method of Chen with modern electronically indicating fluid flow meter gauges, for the purpose of obtaining a more accurate measure of the flow rate via an electronic readout.

Claims 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen 5,337,708 in view of Becnel 3,513,941. Chen (figures 1-4) discloses an exchange procedure for changing a used fluid with a fresh fluid in a vehicle having an automatic transmission 14 connected to a fluid cooling circuit, with the used fluid circulated through the fluid cooling circuit, with the used fluid initially being contained within the transmission and the fluid cooling circuit, with at least a substantial portion of the used fluid being subsequently discharged into a receptacle 72, with the fresh fluid initially being contained in source container 68, comprising providing fluid exchange system 10 having plural conduits, including first conduit 26/24 for communicating fluid from the transmission, and second conduit 18 for communicating fluid to the transmission, accessing the fluid cooling circuit of the transmission to provide a connection access to a high pressure side at 28 and a low pressure side at 34, coupling the first conduit 26/24 to the high pressure side 28 and coupling the second conduit 18 to the low pressure side 34 of the fluid cooling circuit, providing fluid communication between the first and second conduits, flowing used fluid into the first conduit and through the second conduit so that used fluid from the fluid cooling circuit is recirculated back at 82 (see figure 2) into the fluid cooling circuit, measuring an approximate fluid flow rate in the cooling circuit by measuring a fluid flow rate in both the first fluid conduit 26/24 and the second fluid conduit 18 of the fluid exchange system via flow gauges such as 86 (see column 8, lines 60-68 and column 9, lines 10-18), pumping fresh fluid at a selective fluid flow rate into the fluid cooling circuit through the second conduit

Art Unit: 3745

18 while receiving used fluid from the fluid cooling circuit through the first conduit 26/24, and equalizing the selective fluid flow rate to the approximate fluid flow rate in the cooling circuit as measured (see column 11, lines 44-46), by operating fluid valve 94 in fluid communication with the first and second conduits. However, Chen does not disclose that the transmission has an internal fluid pump to conduct circulated fluid in the fluid cooling circuit.

Becnel (figure 1 and column 1, lines 64-72 and column 2, lines 1-16) shows a fluid change apparatus for an automatic transmission 10, which is provided with at least two internal pumping units, each of which discharges into a line 12 leading to a cooler 14 mounted in or adjacent radiator 16, with a return line 18 connecting the cooler back to the transmission pan or sump, for the purpose of circulating automatic transmission fluid in the transmission.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the fluid exchange system and method of exchanging used fluid with a fresh fluid of Chen with an internal fluid pump located in automatic transmission, as taught by Becnel, for the purpose of circulating automatic transmission fluid in the transmission.

Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parker 5,370,160. Parker discloses a method of changing used fluid with a fresh fluid in a vehicle having an automatic transmission substantially as claimed as set forth above, including first and second fluid flow meters 41 and 31, respectively, but does not disclose that the fluid flow meters are electronic flow meters. Rather, the flow meters are sight glass flow meters.

Official Notice is taken that it is known to those of ordinary skill in the art that visual sight gauges (which are a mechanical type gauge) are replaceable via modern electronically indicating fluid flow meter gauges, for the purpose of obtaining a more accurate measure of the flow rate via an electronic readout.

It would have been obvious at the time the invention as made to a person having ordinary skill in the art to replace the mechanical sight gauges of the fluid exchange apparatus and method of Parker with modern electronically indicating fluid flow meter gauges, for the purpose of obtaining a more accurate measure of the flow rate via an electronic readout.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Viken 5,318,080; 5,472,064; Re 36,650; 6,330,934; 6,446,682; and 6,378,657 are cited as parent applications.

Allowable Subject Matter

Claims 34-39 are allowed.

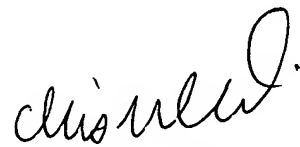
Art Unit: 3745

Claims 25 and 27-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (703)-308-2638. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (703) 308-1044. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



Christopher Verdier
Primary Examiner
Art Unit 3745

C.V.
December 2, 2002